

Conference Paper

Opportunities and Challenges of Pentahelix Collaboration for Poverty Alleviation in Indonesia: A Systematic Literature Review

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Abstract.

Within the context of poverty reduction, there is a clear tendency for groups or organizations involved in these efforts to continue existing practices or approaches without producing the necessary changes or innovations. We found that the poverty reduction gap occurs when programs or projects that have been carried out together repeatedly fail to deliver the expected results in reducing poverty significantly. Despite the awareness of the need for change through collaboration, they still seem to adhere to old approaches that are familiar, routine, or ineffective. Although the pentahelix model partnership is not an easy solution to difficult societal issues, the public views it as an opportunity and challenge that occasionally frustrates the parties involved and raises public expectations. For practitioners, researchers, and decision-makers, this study identifies trends, possibilities, and problems in the development of a larger pentahelix model network of collaborative knowledge generation.

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1. Introduction

The national development of the Indonesian nation still tends to be carried out as a single agent, namely, the government with a hierarchical and centralized structure. In the context of its development, this single-agent approach is carried out using the central government method as the operator (regulators and providers of funds), while the executor is an organ of the central government located at the regional, provincial (regional office), or district level. The involvement of the private sector as implementers (vendors and contractors) is not part of the same job as that of the government's private sector. The problem that has been revealed so far is an institutional problem that is arranged vertically where inventions and innovations flow from the top (top down), so that it is very potential and risky to issue input on important aspirations from the community and by members of the public who deserve to serve as owners of

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constitutional mandates. This is a general difficulty in public and social services that must be changed to enhance the performance of public institutions while also raising public trust. For instance, in districts and cities where Poverty Coordination Teams (TKPK) are active,

poverty rates tend to decrease more than they do in less active places, notably in eastern

Indonesia. The various former systems can be considered functionally distinguishable and tend to be integrated at various levels and structures. A competitive advantage appears to require matching the objectives of various levels of integration and control Porter, [1]. We will see many examples of international and multinational programs from the United Nations, OECD, World Bank, and European Union, helping economic development by relying on government-industrial-academic connections to achieve their goals. Nelson et al., [2] . Cheyne et al., [3] Poverty from the neo-liberal side is a weakness of existence and weak income choices, surrendering personalities, idiotic individuals, and weaknesses in regulation (lazy, resigned, stupid), while on the social democracy side, we see inequality in economic and political structures and social injustice.

The most recent study supports past findings that cross-sectoral cooperation is not a simple solution to difficult societal problems. The player is typically frustrated by this, yet there are instances when it is exhilarating. Huxham et al., [4] call it "collaborative inertia." However, individuals attempting to address issues such as urban poverty and traffic congestion frequently have little choice but to collaborate across sectors to create a shared comprehension of the issue and a commitment to a common solution.

Involving businesses, non-profit organizations, and public partners can spread risks and provide more effective management, which is the main driver behind the formation of cross-sectoral collaboration among public managers and policymakers. Kettl, [5]. Nongovernment partners may contribute their own talents, technological connections, and

financial resources for the joint venture Bryson et al., [6]. Cross-sectoral collaboration has exploded in recent years for various reasons, the most important of which is that companies working together are attempting to do something they cannot accomplish alone Provan & Kenis, [7].

Partnerships are formed through a set of practices that result in the agreed principles of trust and accountability. A partnership is founded on a shared vision, values, goals, risks, benefits, sources of contribution, power, control, and learning. It is a tool or strategy to implement that necessitates examination of the institutional context (Stuckey et al., [8].

There is nothing "powerless" because it is interactive multidimensional across economic, political, psychological, and legal domains; interactive multilocal across local locations, and macro, and relational interactive between parties, and all connections of domination and subordination contain seeds of dependence on one another Pansera & Martinez, [9]. A rights-based approach deliberately and explicitly focuses on those who achieve the minimum conditions for life with dignity (i.e., achieving their basic rights). This is accomplished by exposing root vulnerabilities and marginalization as well as broadening the spectrum of possible remedies. This enables users to appropriately claim and use them while filling gaps in their answers. A rights-based approach acknowledges that the poor, displaced, and war-affected have inherited rights that are fundamental to the security of livelihood and legitimized by international law Jones, [10].

Nonetheless, a bibliometric examination of the research on this topic confirmed the lack of a systematic review based on the results of an initial literature assessment. This type of review is required to discover research lines and topics that collaborate using the pentahelix model, what themes are discussed, what are the primary centers of focus, and what still remains.

Therefore, the primary research questions (RQ) that this study seeks to answer are as follows.

The following are the primary research questions (RQ) this project aims to answer.

RQ1: How is pentahelix collaboration practised in Indonesia?

RQ2: What are the current trends and subjects of discussion regarding the practice of pentahelix collaboration in Indonesia?

RQ3: What are the opportunities and challenges of practicing penta helix Collaboration in poverty alleviation in Indonesia.

The author searched the Scopus database to find solutions to the problems presented above. Publish or Perish was used to perform a descriptive analysis of the gathered data and VOSviewer was used to perform a bibliometric analysis.

The purpose of this study is to provide a clear and comprehensive examination of this topic to identify current and future trends that may drive new research formats and venues as well as potentially alleviate future research shortages. The remainder of this paper is organized as follows. Following this introduction, section 2 presents the research methods, section 3 contains the results of a bibliometric investigation as well as an in-depth examination of documents and discussion of topics that are located in the specified database, and section 4 presents the research conclusions and future directions.

2. Methods

The author reviews this paper through a systematic literature analysis with a systematic approach to collect, compile, review, and synthesize various reference sources that have been written before, formulate specific research, and focus on various topics of the penta helix collaboration model. A systematic and extensive data search was performed to identify articles that met the acceptance criteria with a trusted Scopus indexed reputation. The author gains from understanding the development of existing knowledge and identifies new conceptions, extensions, challenges, and future research directions. Li & Wang, [11] states that there are six steps to conducting a systematic literature review, which are as follows: Defining the problem followed by searching the literature, selecting data, reading literature, organizing data, and writing reviews. The Scopus database was used to find publications of the most credible data sources that are most often used by researchers. The search for keywords or a series of keywords as an article search tool at this stage followed that of Cao et al. [12]. The database search options are as follows: The keyword used in English is “penta helix collaboration” as a topic, with the aim of obtaining as many articles as possible and relevant global documents discussing helix model collaboration in poverty alleviation in Indonesia. Table I depicts the stages of the article selection process, in which only periodic articles are recognized as validated knowledge documents Podsakoff et al., [13]. Other documents (books, newspapers, and magazines) were eliminated because of their variability and limited availability N. A. Jones et al., [10]. The researcher then arranges an ordered dataset and goes through this stage through the Publish or Perish applications. Further detailed mapping of the literature starts from showing the data, development of publications from year to year, topics covered, authors who have done the most research on research topics/problems (authorships), and documents (citations). Most of the articles cited are presented in detail, and the visual form VOSViewer is used to help visualize the data. VOSviewer can also be used to create a network of scientific journals, publications, researchers, publisher organizations, concepts, or keywords. In this tool, co-occurrence, co-authorship, bibliographic coupling, citation networks, or co-citation can be viewed and linked between objects Rialti et al., [14]. VOSviewer fulfills keywords in documents stored in various literature databases (Scopus) to emphasize the relationship between these keywords Pătărlăgeanu et al., [15].

TABLE 1: Flow Research Methods.

Preferred database	Scopus
literatur mining	1 st string: title “collaboration” and “penta helix” or “collaborative” and keyword title “penta helix”
	Publish or Perish tool
	Number of Authors 221
	82 total documents
Inklusi and Eksklusi	Inclusion and exclusion of subject , keywords and document types of 78 articles
	Complete document and read title, abstract and keywords (only relevant documents)
Results Analysis	Development analysis: number of publications from the years 1985 through 2023, papers based on the most authors per document, and the most citations per document
	Map visualization of key linkages between articles using the Vos Viewer to find research trends and topic clustering

3. Results and Discussion

According to Björk [16], the pentahelix model is an effective collaborative strategy for social innovation. This type of cooperation includes the state sector, private industry, academic institutions, the non-profit sector, and citizens Björk, [16]; Calzada, [17]; Halibas, [18]. Fostering an innovative culture among actors in many industries It is built on the triple helix model of academia, business, and

government Leydesdorff & Etzkowitz, [19], but it includes two additional

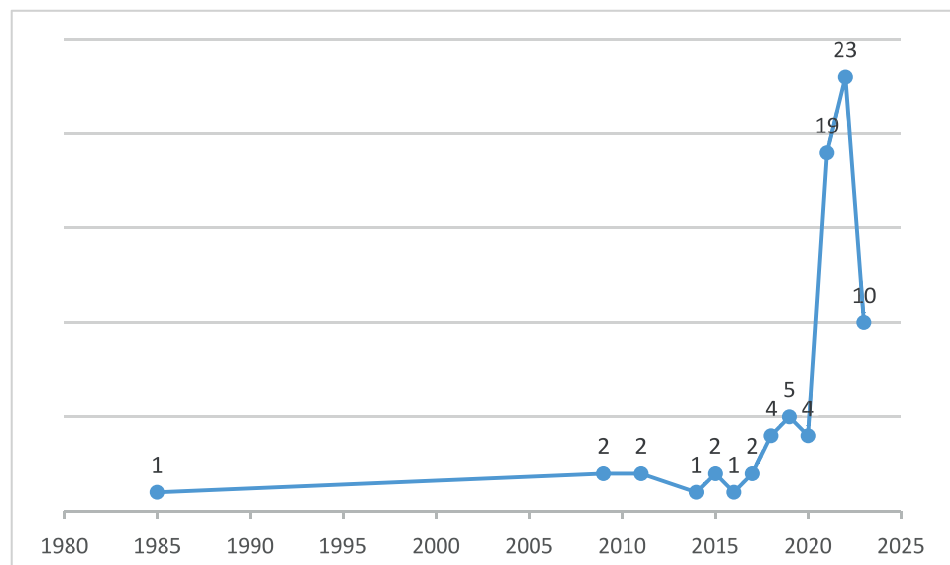
Significant actors: civil society, also known as the third sector, and active citizens, also known as social entrepreneurs. Owing to these additional components, the pentahelix model is better suited than the triple helix model in the context of co-produced social innovation because it illustrates both the logic of democracy and the logic of knowledge or innovation Björk, [16].

The penta helix draft builds on and goes beyond the two previously intriguing stakeholder models: the triple helix theory and quadra helix theory. Government, business, and academic institutions constitute the triple helix theory, which is supplemented by the interests of additional stakeholders, particularly society or communities. The public sector, or government, makes money through tax collection, followed by corporations that provide outcomes through research and innovation. The “iron triangle” theory and the “framework coalition advocacy,” or AFC theory, are two further partnership theories. This idea forms the foundation of the iron triangle theory. According to Ralph Pulitzer,

legislative, executive, and interest group influence are three major factors that keep governments in place (Reynolds, 2015). The fundamental premise of this theory is that bureaucracies constantly strive

to become stronger than in other types of organizations. Business and industrial

Organizations, which serve as the party’s executive and legislative lobbyists, are currently the most powerful interest groups. The penta-helix is the final iteration of the stakeholder model of interest. The fifth area of interest is the medium, which is well beyond the penta helix, as science and technology approach the three-dimensional realm involving earlier models. regarded as having influencing potential and having to be taken into consideration when stakeholder interests are at issue.



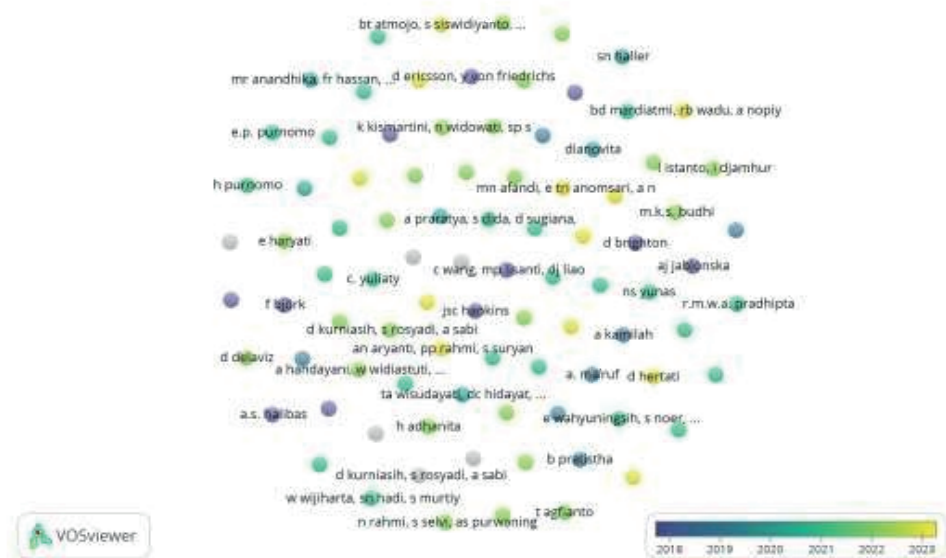
Source: Processed by the Author

Figure 1: Number of penta helix collaborative research publications.

The data show that there are no publications on penta helix collaboration for poverty alleviation in Indonesia. Because this research only focuses on papers that examine penta helix collaboration, and with the same keywords, it was found that some of these studies mostly focused on the topic of tourism and development economics; publications on this topic became dominant in the early 21st century.

The data show that publications on the pentahelix collaboration topic have continued to increase since 1985, although there has been limited research by 2023 (probably not yet published). Because this research only focuses on papers that examine pentahelix collaboration in poverty alleviation, we found that the majority of research aimed at pentahelix collaboration in the economy, tourism, and handling of the Covid-19 pandemic, publications on these topics were in great demand and dominant. The topic of poverty

alleviation was not found even though, in 2021, one publication on the topic discussed collaboration in poverty alleviation, which was intended to discover the discourse on collaborative governance for the development of sustainable green tourism as an effort to alleviate poverty in Kebumen Indonesia Hidayah & Wahyunengseh, [20]; however, the article does not specifically discuss governance collaboration practices in the context of using the pentahelix model. Figure 2 Authors and trends of penta helix collaboration publications

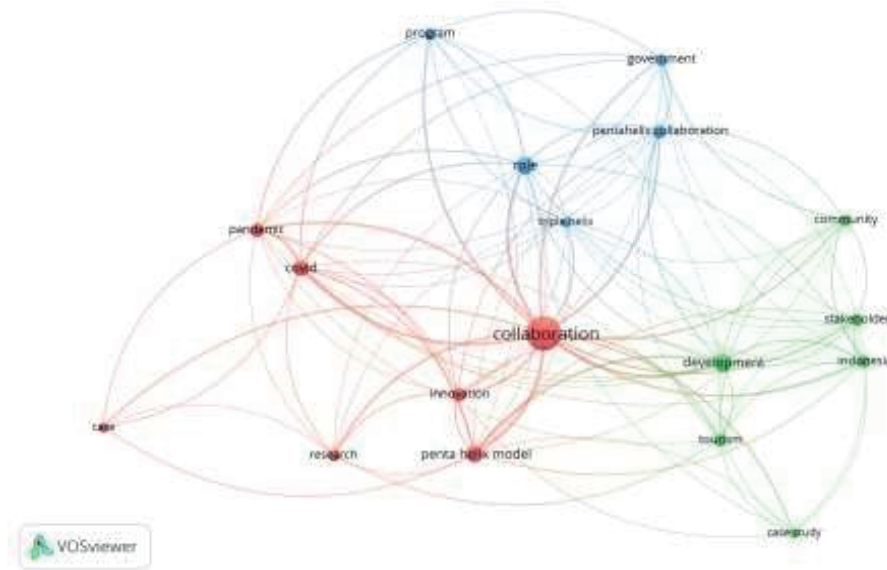


Source: Processed by the Author

Figure 2

In the global economy, for example, penta-helix design can provide solutions to consumer/market-driven firm innovation models. The penta helix design is an excellent tool for dealing with the complexities of stakeholder interests. According to previous research, the penta helix model is a comprehensive idea in terms of stakeholder interests. The penta helix model is extremely helpful for resolving multi-party conflicts where stakeholders' interests reflect multiple interests in one place or one case, according to research by Sturesson, Lindmark, and Roos. Another study by Muhyi et al., and Herawaty demonstrates how the penta helix draft can be used to examine and resolve complex stakeholder interaction issues Muhyi & Chan, [21]. By contrast, Halibas et al. (and Maata revealed that the engagement of penta helix stakeholder interests can reveal the interests of stakeholders who can promote and foster innovation Halibas et al., [18]. Because of policy analyses, actual data, and theoretical stakeholder interests, the

issue "why are the poor always positioned as victims or objects in poverty alleviation?" have been raised for inquiry.

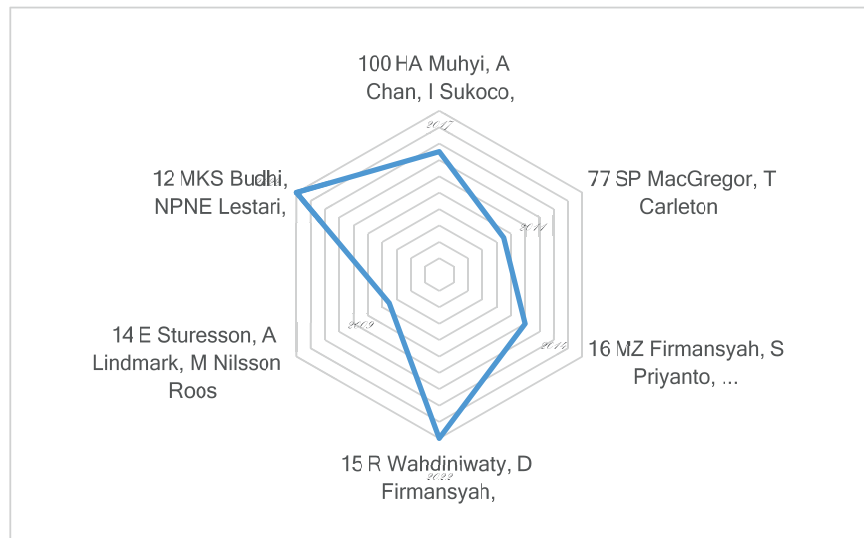


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Figure 3: Network visualization of the pentahelix collaboration topic document.

Based on the visualization above, the subject area illustrates that there are several writers who raise pentahelix collaborative practices from one scope as well as from intersecting topics. The most dominant scope is in most economic fields (tourism, economic development, and innovation), which is considered reasonable because the penta helix model is a triple helix evolutionary model closely related to economic development. This is the development of the initial theory of economic development proposed by Schumpeter, who states that there are two basic actors in economic development: entrepreneurs and innovators (two helices). Because this research only focuses on papers that examine Pentahelix collaboration in poverty alleviation, the network visualization of the Pentahelix collaboration topic document does not include a discussion of poverty alleviation.

Based on the list of the six most-cited articles, it appears that the authors' interest in the practice of penta helix collaboration is quite varied and presents considerations from various points of view. Muhyi et al. [21] examined the penta helix collaboration model in developing leading industrial centers in the city of Bandung Budhi, [22], researching the tourism industry in the Province of Bali. Meanwhile, by Wahdiniwaty et al., [23] and Firmansyah et al., [24] researching the topic of Post-Covid 19 Economic Recovery using a collaborative approach to the hexa helix model (six helix)



Source: Processed by the Author

Figure 4: Top most cited articles.

that considers the roles of Academics, Business/Industry, Government, Community, Social Environment, and MSMEs. Once again, this research only focuses on papers that examine Pentahelix collaboration in poverty alleviation, but in the most cited publications on the topic, there is no discussion of poverty alleviation.

The results of other studies found that there were other factors causing the failure of poverty alleviation that were not included in planning a deep poverty prevention program, so that awareness of participating in poverty reduction or making efforts to leave the poverty zone was low. Feeling poor or on the poverty line does not affect their lifestyle, in a new methodology for multidimensional poverty measurement based on the capability approach, showed that the government only focused on manufacturing policies without considering the conditions of the poor.

The Governance Infrastructure in 2020 lists several essentials for ensuring strong governance in the future, including dynamic, adaptable, and complex systems that must be viewed as organic wholes, including a variety of people, technologies, laws, and relationships emphasize the importance of "local governance" innovation in the United Kingdom, namely the formalization of a working partnership framework. Penta Helix Model Collaborative Challenges in Poverty Alleviation

The results of scientific literature studies show that collaborative governance usually faces three complex types of challenges: (1) challenges in solving substantive problems, (2) challenges in collaborative processes, and (3) challenges in multi-relational accountability.

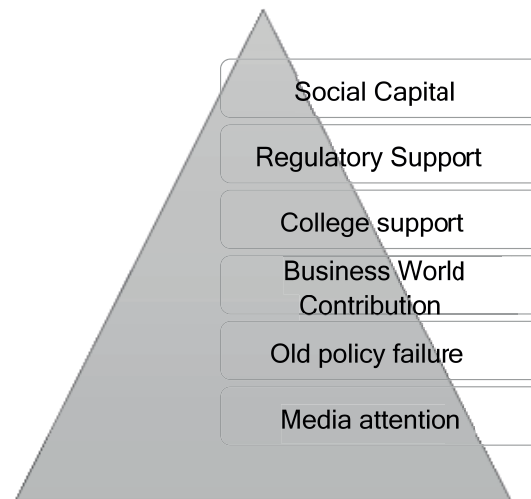
TABLE 2: Most cited publications.

Author, year	Title	Journal	Citation
HA Muhyi, A Chan, I Sukoco (2017)	The Penta Helix collaboration model in developing leading industrial centers in the city of Bandung	Tinjauan Riset Bisnis dan Ekonomi Integratif, Vol. 6, No. 1, hal.412-417, Januari 2017	100
SP MacGregor, T Carleton (2009)	Sustaining innovation: Collaborative models for a complex world	Journal ekonomi pengetahuan 2009	77
R Wahdiniwaty , D Firmansyah (2022)	Quadruple Helix Collaborative Concept and Quintuple Helix Innovation as PostCovid 19 Economic Recovery Solutions	MIX: Journal Ilmiah Manajemen Vol 12, No 3 (2022):	15
E Stuesson, A Lindmark, M Nilsson Roos (2009)	Collaboration for Ainnovation studies in the Oresund region	University Lund: Sekolah Ekonomi dan Manajemen	14
D Firmansyah, A Suryana, AA Rifa' (2022)	Hexa Helix: Collaboration of Quadruple Helix and Quintuple Helix Innovation as a Solution for PostCovid-19 Economic Recovery	Ekuitas : Journal Ekonomi dan Keuangan Volume 6, Nomor 4, Desember 2022: 476 – 499	12
MKS Budhi, NPNE Lestari	Recovery of the tourism industry in the Province of Bali through a penta-helix collaboration strategy in the new normal era	Journal Geowisata dan Geosite Tahun XV, vol. 40, tidak. 1, 2022, hal.167-174	12

Source: Processed by the Author

4. Conclusion

Based on the results of the data analysis above,using an interactive model shows that the goodwill trust dimension in the livable house construction program in the Gowa Regency has been effective and optimal. This can be seen in the cooperation of related parties, starting from the survey to the implementation and distribution of aid. The stakeholders involved in the implementation of the livable housing development program include the Regional Government, Village Government and the Private Party.



Source: Author Modification

Figure 5: Opportunities for Pentahelix Collaboration in Poverty Alleviation.

The first element states that the responsiveness of the stakeholders is very good and full of commitment in carrying out an assistance program for the construction of livable houses in the Gowa Regency. Stakeholders in the implementation of the Self-Help Housing Stimulant Assistance (BSPS) program are always guided by the technical guidelines issued by the Ministry of Public Works and Public Housing (PUPR), so that whatever is done, the stages always refer to these guidelines. The second element states that there are several regulations from the Central Government and Ministerial Regulations regarding assistance for the construction of livable houses based on these regulations and is committed to implementing a livable housing development program in the Gowa Regency. The third element. The Perkintan Agency Service participated in a survey to verify the eligibility of prospective beneficiaries through the fields appointed as BSPS assistants. The Housing and Settlements Agency wrote a letter to the village government to submit data on Uninhabitable Houses (RTLH) according to the quota for the current year's BSPS Program assistance for further verification, after which the disbursement process was coordinated with the bank to collaborate in distributing aid.

The development of the Indonesian nation still tends to be carried out by a single agent, namely the government, with its hierarchical and centralized structure. Institutional issues are arranged vertically, where inventions and innovations flow from the top (top down), so it is very potential and risky to eliminate important inputs from the people and citizens who should serve as owners of constitutional mandates. Most frequently, political, social, economic, and environmental problems associated with systemic and structural underdevelopment, which occur at societal and global levels, are considered to be the primary causes of poverty. Public managers and policymakers recognize

that they cannot solve public problems alone or that involving business, non-profit, and community partners can reduce risks and provide a more effective handling effect, which is the driving force behind the formation of cross-sectoral collaboration. Cross-sectoral collaboration has exploded in recent years for a variety of reasons, the most important of which is that the participating organizations are attempting to achieve something they could not do on their own. Many international and multinational programs promote economic development through academic-industry-government collaboration to achieve their objectives. Recent findings merely support earlier findings that cross-Sectoral cooperation is not a simple solution to difficult societal issues. It is true that it is frequently difficult (but occasionally exhilarating) and brimming with chances for achievement. People who want to solve challenges such as poverty and urban traffic congestion must frequently collaborate across sectors to generate shared knowledge of the problem and a commitment to finding a solution. Public managers and policymakers understand that they cannot solve public problems alone and that involving commercial, non-profit, and community partners can reduce risks and provide a more effective response effect. This understanding is the fundamental driver of the creation of cross-sectoral collaboration. Non-government partners may be able to contribute to a joint venture with additional knowledge, connections, technology, and financial resources. The Pentahelix stakeholder analysis model is a comprehensive stakeholder theory. According to the pentahelix concept, stakeholders can be divided into five categories. To produce high-quality policies that are focused on the public interest, it is expected that the collaboration of the five stakeholders would be able to engage with each other in a synergistic manner. The triple helix theory and quadruple helix theory, two prior stakeholder models, are built upon and extended to create the pentahelix notion. When several stakeholders represent different interests in one place, the pentahelix model is highly helpful for finding solutions. The five stakeholders work together to create a policy that is supported by a variety of resources that work in concert with one another. One of the goals of democratic decentralization in the context of governance is responsiveness, namely, the ability of the government to solve regional problems. Through the local government, the policies are expected to meet the needs of the people in the area. Decentralization can increase an organization's ability to take into account differences between local conditions. Thus, what is provided can be better if it is in accordance with local (regional) conditions in a multi-organizational network.

The first step in problem-oriented collaborative governance activities is to reach a common understanding of the goals and approach to be used. Usually, there are interests owned by the parties involved, so divisions are made to solve a particular problem.

In this context, there are overlapping things such as values, goals, and commitments, but there are also things that are very different. The more parties involved, the more difficult it is to find comfort. However, it should be emphasized that there are differences in the understanding of collaboration and conflict. Therefore, the main challenge is how to turn a negative "antagonistic" conflict into a positive "constructive" conflict, which can later expand the goals of all parties and bring up solutions to problems that must be resolved. Along with the process of building common goals, collaborators need to earn the trust of all the parties. Trust is usually an informal element that encourages cooperation. Another aspect of building trust is building trust. Obstacles that usually occur are competition between collaborators and other parties, reluctant to fully participate because of busyness, unsure about the result, or worry that their interests or opinions will be ignored. To overcome these obstacles, cooperation is needed to create an environment that focuses on mutual benefits for all parties, both professional and personal. A trend analysis of the literature in this study in terms of keywords about penta helix collaboration practices in poverty alleviation shows that research on this topic has not yet been found. The development of penta helix collaborative research still leads to views related to the most important basic aspect, namely, the synergy between actors in other fields. Literature clustering shows a certain pattern where the author then identifies each cluster that appears in the visualization data processing, which appears dominant in the fields of tourism, creative economy, and public health. However, this research has certain limitations, where data collection is only from one database that contains articles discussing penta helix cooperation in Indonesia, and does not include discussion of the penta helix model of cooperation in poverty alleviation, both in terms of practice, topics, and the development of concepts and theories in other countries. Furthermore, because the main objective of this study was to identify collaborative penta helix practices in poverty alleviation in Indonesia, it was not found in this study. Therefore, further research can fill this gap by looking at the context of opportunities and challenges in empirical research while allowing it to be replicated in other countries to fill and enrich the broader literature on penta-helix cooperation in poverty alleviation.

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